
SIS Test Tracking

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Executive Summary

The purposes of the SIS Test Tracking modules are:

- To track students test scores which may be shown on transcripts (as per legislative mandate)
- To enable parent access to test scores (as per legislative mandate)
- To show individual student test scores to counselors in order to help them better counsel students
- To provide collective test information to curriculum specialists to help them develop better curriculums.

SIS test tracking, web-based modules for tracking student tests, are fully integrated into the current SIS web site. The modules, integrated into SIS web, that are needed to track student testing are:

- Master Test Maintenance
- Test Instance Maintenance
- Test Score Maintenance
- Parent/Student Test Score Viewing

Master Test Maintenance is used to declare information pertaining to tests that are given in each district throughout the state. The grade level of the test, the test type, the normal time this test is given are included in this information, as well as the sub-test linked to each test found in the master test tables.

Test Instance Maintenance tracks specific test information such as test date, test language, grade level, and school.

Test Score Maintenance allows input of scores for each student, which can then be viewed in the Parent/Student Test Score pages.

The ASP pages found in the test history tracking modules use VB script, HTML, DHTML, and JavaScript for front end processing and Microsoft SQL Server tables and stored procedures for database processing on the back end. Test code and sub-test code tables, used in the test tracking modules, have been pre-loaded with **SIF**¹ codes compliant with Version 1.0, Revision 1 of the **SIF** industry standard published by the **SIIA**².

Security is integrated into the current SIS security with specific user security needed to gain access to Master Test Maintenance, while Test Instance Maintenance and Test Score Viewing are included within the Admin and Parent/Student access respectively.

CRT "CR-7" Test data is imported from the test definition module using the new "CRT-7 Alternate Layout" import file to be included on research disks from the end of the Year 2002.

Integration into SIS 2000+ on the Web

¹ Schools Interoperability Framework, web address is www.sifinfo.org

² Software & Information Industry Association
1090 Vermont Ave., NW · 6th Floor · Washington, DC 20005
+1 202-289-7442 · www.siiia.net

The testing modules have been integrated into SIS 2000+ on the Web as of version 3.0.0. Security, supporting lookup tables, student information etc. used in the web modules are the same tables used throughout SIS in other places. All that is needed to enable test history on the Web is to set up security, set preferences, and convert previous data (from the old SIS 2000+(FoxPro driven data) as needed.

Preferences that need to be set in the preference table are as follows:

Application: TESTING
Preference Name: Testrights
Preference Value: AFPS*
*Note: Specifies which of the "portals" has access to TESTING.app
(A=Administrator/Counselor; F=Faculty; P=Parent; S=Student)

Security

Security is handled by what SIS 2000+ on the Web allows. **Figure 1** shows a person, logged into administrator options, who has rights to Edit Master Tests. The district shown also has the "test rights" set as shown above.

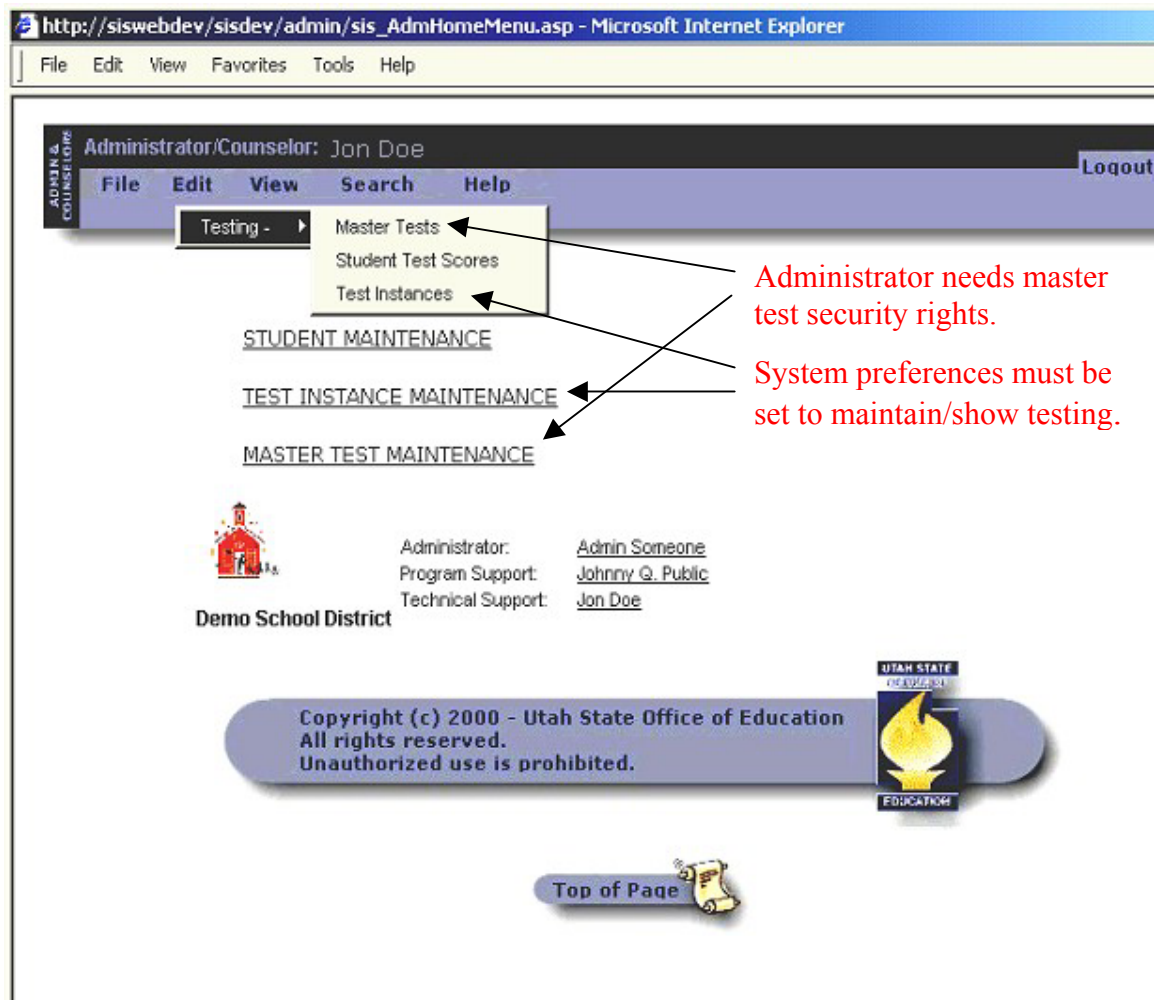


Figure 1

In order for an individual to have test master maintenance capability, the individual must have their shell permissions set to include “webtestm” rights in the usrshell and snshell tables. Having these rights set will also generate buttons in FoxPro SIS Test History to go to the appropriate web pages.

Master Test Setup/Maintenance

Before test instances can be defined, and before student tests can be entered, master test records must be configured. **Figure 2** shows the sample screen of a couple of master test records. These test records can be edited by clicking on the “Test Id” link for each test. If there are no subtests for a master test, the master test can be deleted by clicking on the “Del” button on the right-hand side of the web page.

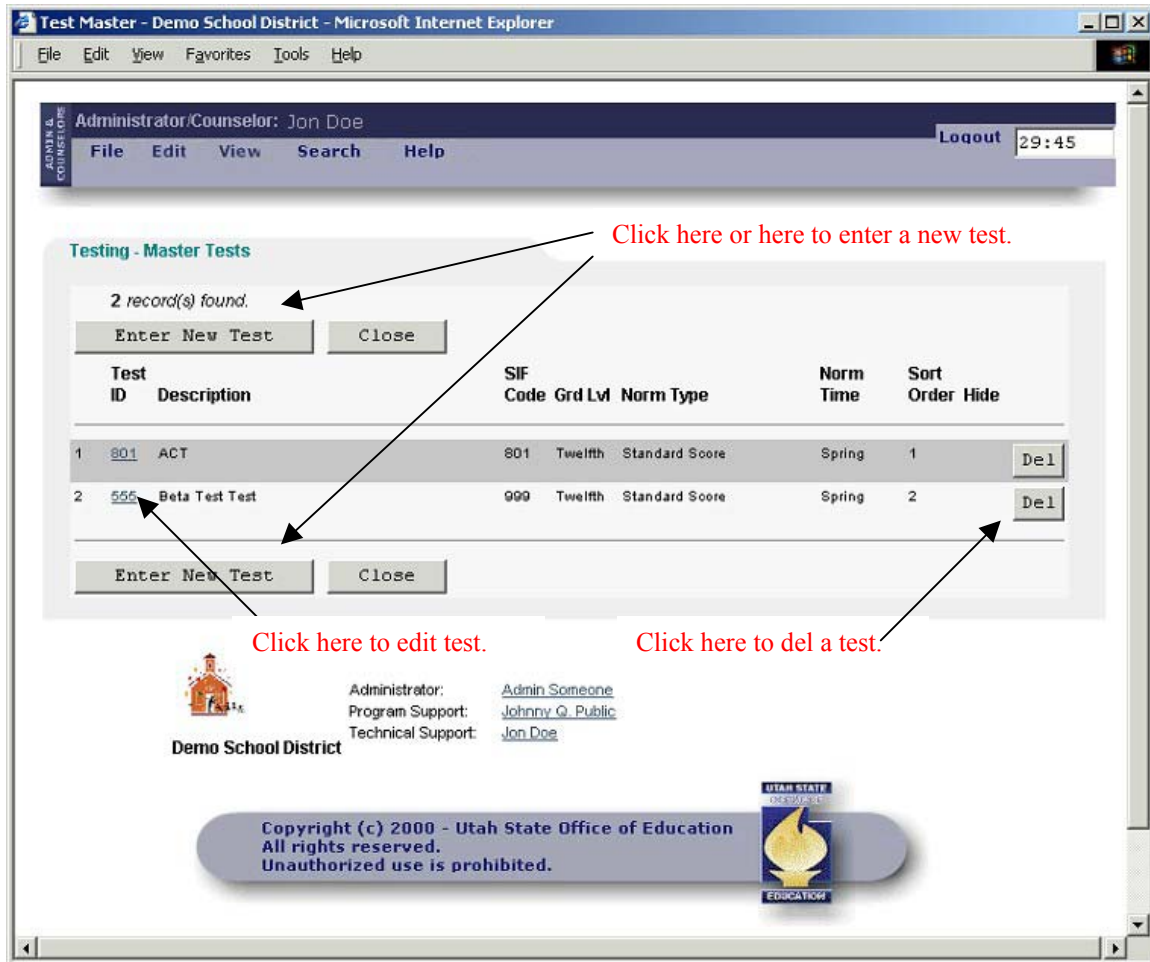


Figure 2

The subtests for a master test can easily be viewed by holding down the either mouse button when the mouse cursor is over a test description as shown in **Figure 3**. When the mouse button is let up, the view returns to the summary level as previously seen in **Figure 2** unless the mouse cursor has been moved from the description area. Subtests for more than one test can be viewed at the same time by moving the mouse out of the description area and then into another description area.

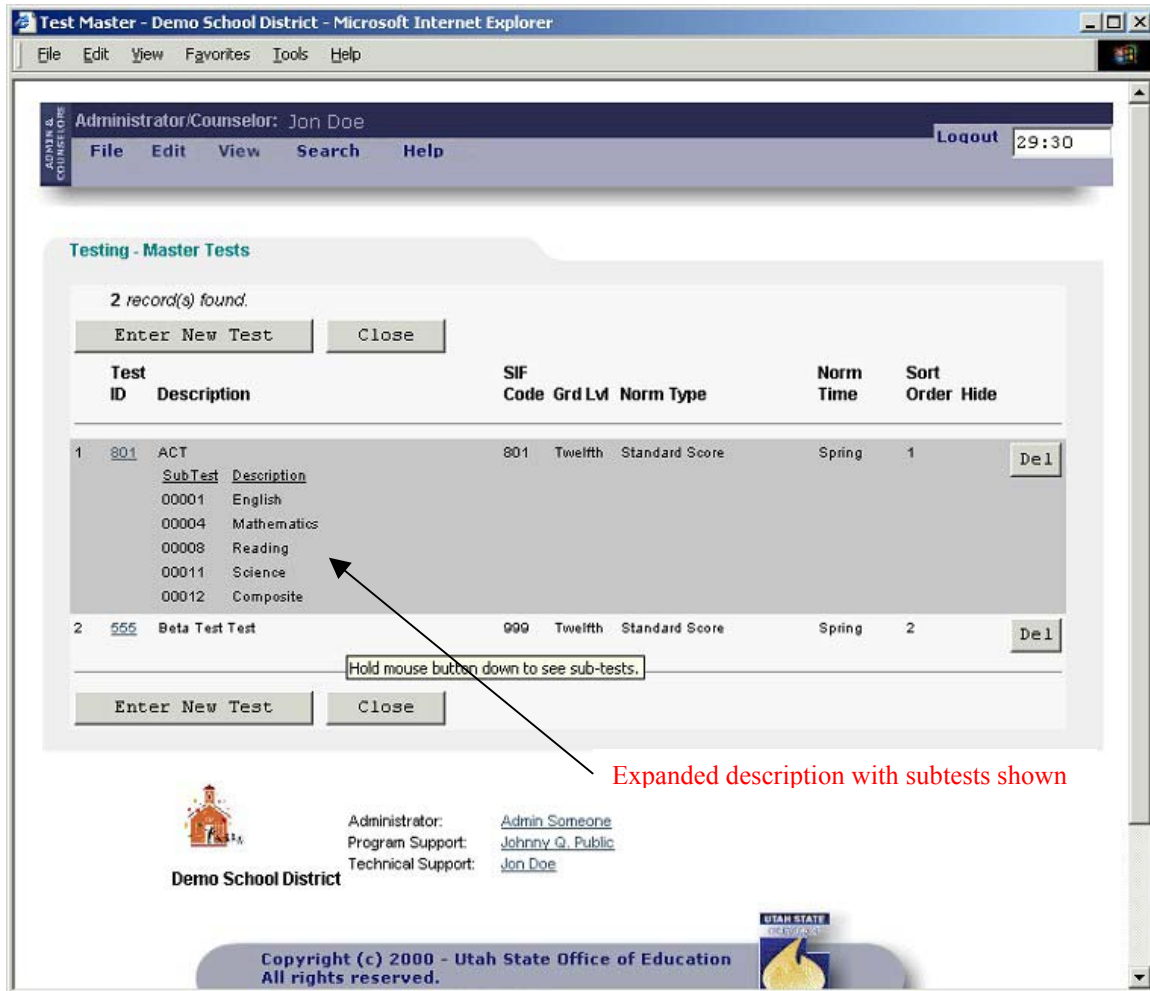


Figure 3

Both “Enter New Test” buttons allow entry of new tests. The Master Test Add page is presented when either “Enter New Test” button is pressed. This page asks for the following information:

- Test Id – a unique, user enterable, master test identification number. If a previously used number is entered, the test record assigned to that number is presented.
- SIF Code – Standard code that must be picked from the list that is presented.
- Description – Description of the master test. This field is filled with the SIF description each time a new SIF code is chosen but can also be edited.
- Grade – Grade level for which the test is intended – currently pre-kindergarten through post-twelfth grade levels.
- Norm Type – normal type of the test, current choices are:
 - ✓ Standard score
 - ✓ Percentile
 - ✓ Grade equivalent
 - ✓ Stanine
 - ✓ Normal curve equivalent
 - ✓ Raw score.

- Norm Time – normal time of the year the school year the test is given.
- Sort Order – sort order for list choices on other web pages.
- Hide – remove this test from list choices on other web pages.
- Transcript – flag to show transcript possibilities for this test (see **Figure 4**). Current choices:
 - ✓ Do Not Allow on Transcript
 - ✓ Allow on Transcript (default of off, but can be toggled on)
 - ✓ Default on Transcript (default of on, but can be toggled off)
 - ✓ Mandatory on Transcript

The screenshot shows a web browser window titled "Test Master - Demo School District - Microsoft Internet Explorer". The browser's address bar shows the URL "http://www.uts.edu/sis2000plus/testmaster/". The page has a header bar with "Administrator/Counselor: Jon Doe" and a "Logout" button. Below the header is a menu bar with "File", "Edit", "View", "Search", and "Help". The main content area is titled "Testing - Master Tests" and displays a table of master tests. The table has columns for "Test ID", "Description", "SIF Code", "Grd Lvl", "Norm Type", "Norm Time", "Sort Order", and "Hide". There are two records found. The first record is for "ACT" with SIF Code "801", Grade Level "Twelfth", Norm Type "Standard Score", Norm Time "Spring", Sort Order "1", and a "Del" button. The second record is for "Beta Test Test" with SIF Code "999", Grade Level "Twelfth", Norm Type "Standard Score", Norm Time "Spring", Sort Order "2", and a "Del" button. Below the table, there is a button "Enter New Test" and a "Close" button. At the bottom of the page, there is a footer with "Demo School District" and "Copyright (c) 2000 - Utah State Office of Education All rights reserved."

Test ID	Description	SIF Code	Grd Lvl	Norm Type	Norm Time	Sort Order	Hide
1	801 ACT SubTest Description 00001 English 00004 Mathematics 00008 Reading 00011 Science 00012 Composite	801	Twelfth	Standard Score	Spring	1	Del
2	555 Beta Test Test	999	Twelfth	Standard Score	Spring	2	Del

Figure 4

Once the top level information for the test being entered, is correct the save button is then pressed. The next page to come up is actually the same page – only in edit mode. The page allows user entry of subtest codes for master tests that have no corresponding subtest SIF codes, such as tests with a SIF code of “9UT” or with a SIF code of “999”. The page allows for up to five subtests to be entered at a time – after each five subtests, the save button must be pressed (See **Figure 5**). Sub tests with a score type of “Standard Score” require a max score to be entered for data validation at the student level. Subtest code and description are

also required before the Add check box is activated. The save button not only adds new sub tests, but also saves any changes made to the entire master test.

The screenshot shows a web application titled "Test Master Edit - Demo School District - Microsoft Internet Explorer". The main form contains the following fields:

- Test ID: (must be unique) 333
- SIF Code: 9UT - Utah State Adopted Test or Requirement
- Description: Utah State Adopted Test or Requirement
- Grade: Twelfth
- Norm Type: Standard Score
- Norm Time: Spring
- Sort Order: 3
- Hide: ☐
- Transcript: (Visibility) Allow on Transcript

Below these fields are buttons: Close, Reset, Save, and Save & Exit.

The "Sub Tests - ADD" section contains a table with the following columns: Sort Ord, SubTest, Description, Score Type, Passing Score, Max Score, Hide, and Add.

Sort Ord	SubTest	Description	Score Type	Passing Score	Max Score	Hide	Add
1			Standard Score	0	0	<input type="checkbox"/>	<input type="checkbox"/>
2			Standard Score	0	0	<input type="checkbox"/>	<input type="checkbox"/>
3			Standard Score	0	0	<input type="checkbox"/>	<input type="checkbox"/>
4			Standard Score	0	0	<input type="checkbox"/>	<input type="checkbox"/>
5			Standard Score	0	0	<input type="checkbox"/>	<input type="checkbox"/>

Below the table are buttons: Close, Reset, Save, and Save & Exit.

Figure 5

The web page automatically generates subtest records for tests with corresponding subtest SIF codes (see **Figure 6** to see the automatically generated subtest portion of the web page). Subtest categories not used are then deleted by checking the Delete checkbox for each subtest to be deleted, and then by pressing the save button. Once again, the max score field is required for all score types of standard score. The max score should be changed from the default of 1, or only 1 or 0 will be allowed for each student subtest score. Deleted subtest records can be added back, up to five at a time, by filling in the SIF code information in the add section at the bottom of the page.

Test Master Edit - Demo School District - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Sub Tests - EDIT

Sort Ord	Sif Code	Score Type	Passing Score	Max Score	Hide	Del
1	1-Word Reading	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
2	2-Reading Comprehension	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
3	3-Auditory Discrimination	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
4	4-Phonetic Analysis	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
5	5-Structural Analysis	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
6	6-Auditory Vocabulary	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
7	7-Vocabulary	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
8	8-Word Parts	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
9	9-Reading Rate	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
10	10-Scanning and Skimming	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
11	11-Fast Reading	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
12	12-Number System and Numeration	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
13	13-Computation	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
14	14-Applications	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
15	15-Mathematics Total	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
16	100-Complete Battery	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>
17	101-Basic Battery	Standard Score	0	1	<input type="checkbox"/>	<input type="checkbox"/>

Sub Tests - ADD

Sort Ord	Sif Code	Score Type	Passing Score	Max Score	Hide	Add
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Figure 6

Remember, master test record maintenance should be tightly controlled, and only be accessed by a select few individuals who have responsibility over which tests are ever given.

Test Instance Setup/Maintenance

Figure 7 shows a fictitious page listing of tests instances. Test instance ids provide a link to the test instances edit page. The “New Test Defs” buttons link to new test instance entry page. One record needs to be entered for each test given. These test instances are used to validate tests chosen in the student test score entry page.

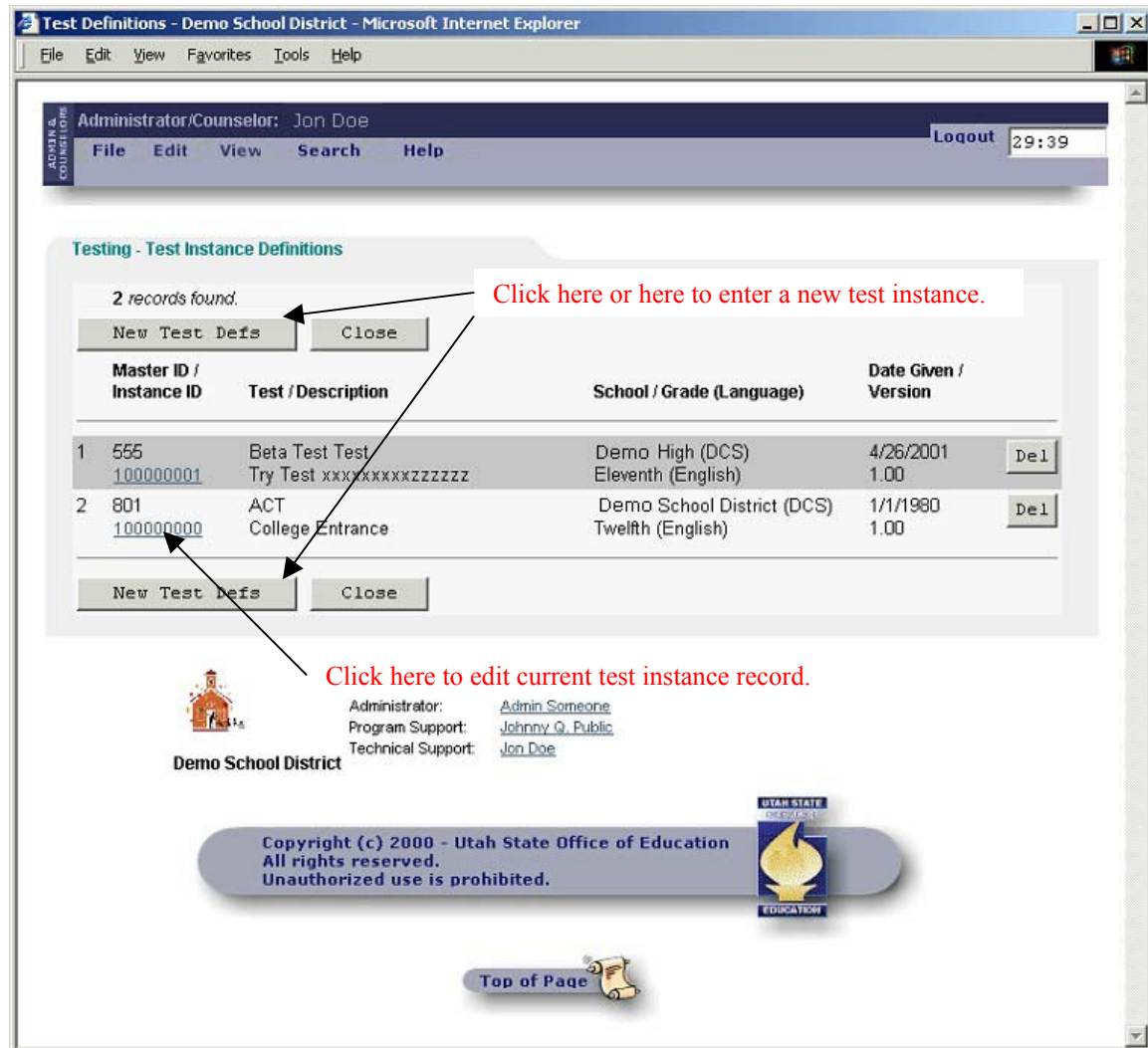


Figure 7

Information tracked in the test definition pages include the following (see Figure 8):

- Test Definition ID – unique code generated by the system.
- Test Code – from list of master tests, previously defined.
- Test Description - description or purpose of test.
- Date Given – date the test was administered.
- Language - language the test was given in.
- Test Method - method of administering the test.

- School – school where or for which the test was given.
- Grade Level – grade level of the test.
- Version – optional version information to identify which version of the test was administered.

The “Save” or “Save and Exit” buttons save the test definition. Test instances can be created/edited by anyone with administrative security rights.

Test Definitions Edit - Demo School District - Microsoft Internet Explorer

File Edit View Favorites Tools Help

2BY2 Search Home E-Mail Shopping

Administrator/Counselor: Jon Doe Logout 18:44

File Edit View Search Help

Testing - Test Instance Definitions - EDIT

Test Def: (unique) 100000000

Test Code: 801 - ACT

Description: College Entrance

Date Given: >(mm/dd/yy) 10 / 1 / 01

Language: English


Test Method (How): Paper and Pencil

School: Demo High (DCS)

Grade Level: Twelfth

Version: 1.00

Close Reset Save Save & Exit CRT Import

 Administrator: Admin Someone
Program Support: Johnny Q. Public
Technical Support: Jon Doe

Demo School District

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Figure 8

Test Scores Setup/Maintenance

Test score maintenance is integrated into the student information page as shown in **Figure 9**.

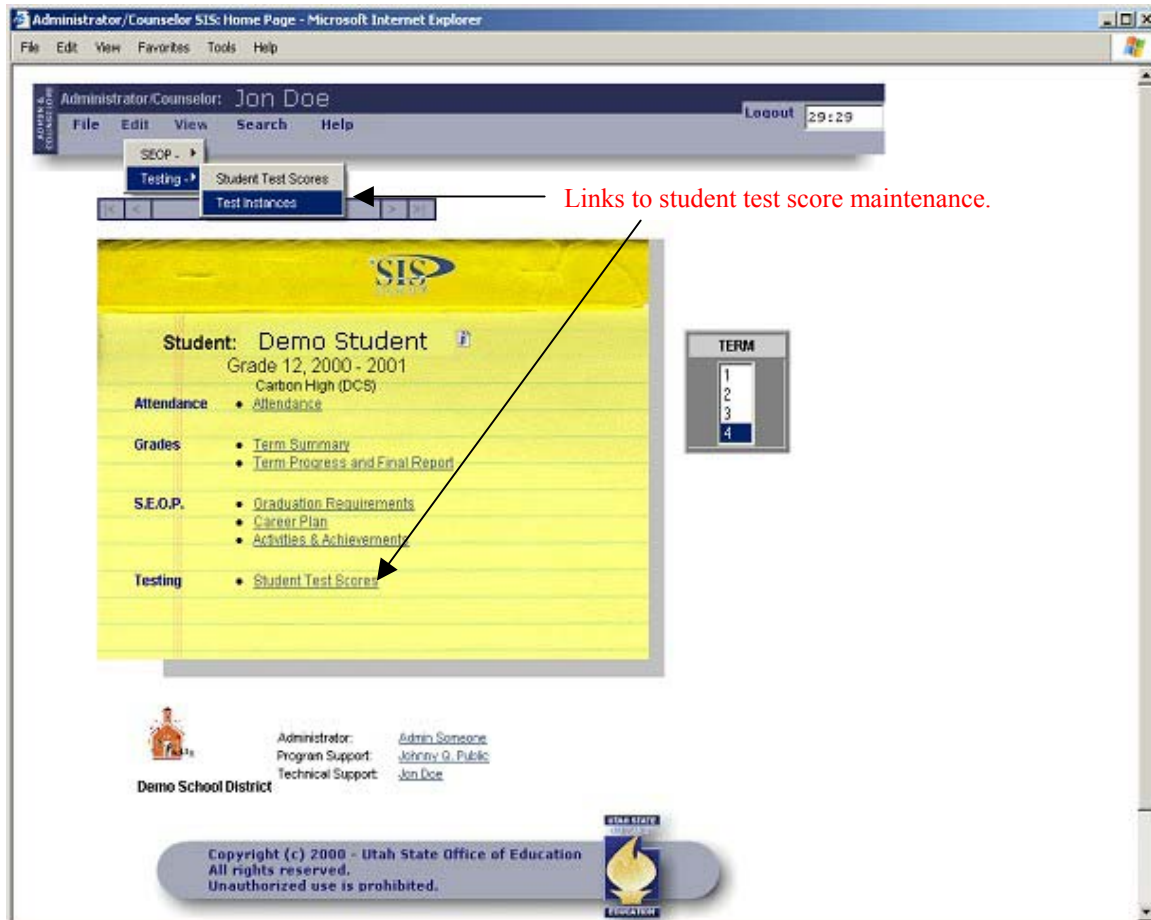


Figure 9

Figure 10 shows the list of tests a student has taken (in reverse date order). Test scores are edited by clicking on the test id link. Clicking on either “Enter New Test” button creates tests and tests scores.

Administrator/Counselor: Jon Doe Logout 29:22

File Edit View Search Help

Student 1 of 1 found.

RETURN TO SEARCH RESULTS

Testing - Student Tests

Student: Demo Student School Name: DemoHigh (DCS)

2 record(s) found.

Enter New Test Close

Date Taken	Test Id	Description	Grd Lvl	Transcript	
04/26/01	555/2000010432	Beta Test Test / Try Test xxxxxxxxxxxxxxxx	11	<input checked="" type="checkbox"/>	Del
04/01/00	801/2000000351	ACT / College Entrance	K	<input type="checkbox"/>	Del

Enter New Test Close

Administrator: [Admin Someone](#)
 Program Support: [Johnny Q. Public](#)
 Technical Support: [Jon Doe](#)

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Figure 10

Student tests are entered in two parts. First, the test taken is selected with the date taken and grade of the student set (see **Figure 11**). The grade the student was in, when the test was taken, changes automatically when a test is selected with a date between the entry and exit dates a student was enrolled (and tracked in SIS). Otherwise, the grade the student was in is defaulted to the grade level of the test (which can be changed by the person entering the student test information). Optionally, the “Show on Transcript” check box is checked or unchecked if this check box is available.

The screenshot shows a web browser window titled "Admin Student Test Edit - Demo School District - Microsoft Internet Explorer". The browser's address bar shows the URL "http://www.demoschool.org". The page has a menu bar with "File", "Edit", "View", "Favorites", "Tools", and "Help". Below the menu bar is a header area with "Administrator/Counselor: Jon Doe" and a "Logout" button. The main content area is titled "Testing - Student Test Scores - ADD". It contains a form for adding a student test score. The form has a "Student" field with the value "Demo Student" and a "School Name" field with the value "DemoHigh (DCS)". The "Test" field is a dropdown menu showing "801 (10/01/01) College Entrance/ACT". The "Date Taken" field is a date picker showing "10 / 1 / 01". The "Grade" field is a dropdown menu showing "Twelfth". There is a "Show on Transcript" checkbox which is currently unchecked. At the bottom of the form are three buttons: "Close", "Reset", and "Save". Below the form is a section for "Demo School District" with contact information: "Administrator: Admin Someone", "Program Support: Johnny G. Public", and "Technical Support: Jon Doe". At the bottom of the page is a copyright notice: "Copyright (c) 2000 - Utah State Office of Education. All rights reserved. Unauthorized use is prohibited." and a "Top of Page" button.

Figure 11

When the student test information fields are correct, the student test history record is saved by clicking on the save button. Student score records are then created for each subtest linked to the corresponding master test record (see Figure 12).

The screenshot shows a web browser window titled "Admin Student Test Edit - Demo School District - Microsoft Internet Explorer". The browser's address bar and menu bar are visible. The application interface includes a top navigation bar with "File", "Edit", "View", "Search", and "Help" menus, and a "Logout" button showing the time "29:52".

The main content area is titled "Testing - Student Test Scores - EDIT". It displays the following information:

- Student:** Demo Student
- School Name:** Demo High (DCS)
- Student Test #:** 200000351
- Test:** 801 (10/1/2001) College Entrance/ACT
- Date Taken:** 4/1/00
- Grade:** Kindergarten
- ☐ Show on Transcript

Below this information are buttons for "Close", "Reset", "Save", and "Save & Exit".

The "Scores" section contains a table with the following data:

Sub Test	Description	Score Type	Score
00001	English	Standard Score	27
00004	Mathematics	Standard Score	29
00008	Reading	Standard Score	29
00011	Science	Standard Score	26
00012	Composite	Standard Score	28

Below the table are buttons for "Close", "Reset", "Save", and "Save & Exit".

At the bottom of the page, there is a logo for "Demo School District" and contact information:

- Administrator: [Admin Someone](#)
- Program Support: [Johnny Q. Public](#)
- Technical Support: [Jon Doe](#)

Figure 12

Score records are edited by entering the score and pressing the enter key in a spreadsheet columnar fashion. Records of score type "Standard Score" are verified against the maximum score found in the corresponding master sub test record.

Parent/Student Test Score Viewing

Student Tests - Demo School District - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

SIS HOME | ATTENDANCE | GRADES | REPORTS | SEARCH | S.E.O.P. | TESTING | HELP LOGOUT

Student Tests/Scores 28:45

STUDENTS

Testing - Student Tests/Scores

Student: Jon Doe School Name: DemoHigh (DCS)

2 record(s) found.

Date Taken	Description (HOLD DOWN LEFT MOUSE BUTTON TO SEE TEST SUB-SCORES)	Grd Lvl	Transcript
04/26/01 View Scores	Beta Test Test /Try Test xxxxxxxxxxxzzzzzz	11	✓
04/01/00 View Scores	ACT /College Entrance	K	

Administrator: [Admin Someone](#)
 Program Support: [Johnny Q. Public](#)
 Technical Support: [Jon Doe](#)

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Figure 13

The parent and student test score pages are very similar to the administrative student test score pages see **Figure 13**).

Both, the administrative and the parent/student pages, show the student test scores by holding down either mouse button when the mouse cursor is over the test description (see **Figure 14**).

The screenshot shows a web browser window titled "Student Tests - Demo School District - Microsoft Internet Explorer". The browser's address bar shows the URL "http://www.sis2000.com". The page has a navigation menu with links: HOME, ATTENDANCE, GRADES, REPORTS, SEARCH, S.E.O.P., TESTING, and HELP. A "LOGOUT" link is also present. The main content area is titled "Testing - Student Tests/Scores" and displays information for "Student: Jon Doe" and "School Name: DemoHigh (DCS)".

Below the student information, it states "2 record(s) found." and displays a table of test results:

Date Taken	Description (HOLD DOWN LEFT MOUSE BUTTON TO SEE TEST SUB-SCORES)	Grd Lvl	Transcript
04/26/01	View Scores Beta Test Test /Try Test xxxxxxxxxxxzzzzzz	11	✓
	SubTest Description Score		
	Sub Test 1 14		
	Sub Test 2 12		
	Sub Test 3 17		
	Sub Test 4 9		
	Sub Test 5 18		
04/01/00	View Scores ACT /College Entrance	K	

Below the table, there is a note: "hold mouse button down to see sub-scores." At the bottom of the page, there is a footer with the text: "Copyright (c) 2000 - Utah State Office of Education All rights reserved. Unauthorized use is prohibited." and a logo for the Utah State Office of Education.

Figure 14

Individual test scores can also be viewed via a popup window by clicking on the view scores link for each test (see **Figure 15**) in the parent/student test view page.

The screenshot shows a web browser window titled "Student Test Edit - Demo School District - Microsoft Internet Explorer". Inside the browser, there is a "Close" button at the top. Below it is a form with the following fields:

Student Name:	Jon Doe	Student Test#:	
Test:	555 (4/26/2001) Try Test xxxxxxxxxxzzzzzz/ Beta Test Test		
Date Taken:	04/26/01	Grade:	Eleventh
		<input checked="" type="checkbox"/> Show on Transcript	

Below the form is a table with the following data:

Sub Test	Description	Score Type	Score
1	Sub Test 1	Standard Score	14
2	Sub Test 2	Standard Score	12
3	Sub Test 3	Standard Score	17
4	Sub Test 4	Standard Score	9
5	Sub Test 5	Standard Score	18

At the bottom of the form area is another "Close" button.

Figure 15

Database Setup

Proper data values must be verified and maintained in the following validation tables in order to keep the test history data clean:

- ZGRADE
- ZLANG
- ZNORMTIM
- ZNORMTYP
- ZTESTHOW

Two new fully populated tables must be added to the database for SIF code compliance as follows:

- ZSIFTEST
- ZSIFSUBT

The following four test history tables will no longer be needed once data has been converted:

- STUTESTS
- STUSCORS
- TESTDEF
- ZTEST

The above four tables will be replaced by these five tables:

- STUTESTS1
- STUSCORS1
- TESTDEF1
- ZTEST1
- ZSUBTEST1

Conversion

Data conversion should be done as follows:

1. Copy in the ZSIFTEST and ZSIFSUBT tables.
2. Run the sql scripts in this order:
 - 1) NewTestConversionKeys.sql - Adds keys if they don't exist to test related tables.
 - 2) NewTestConversionTables.sql - Creates and keys the new test tables.
 - 3) NewTestConversionData.sql - Adds data to the new test tables.
3. Copy the following stored procedures into the database:
 - siSp_stutests1AddModify
 - siSp_stutests1ModifyTranscript
 - siSp_stutscors1AddModify
 - siSp_testdef1AddModify
 - siSp_zsubtest1AddModify
 - siSp_ztest1AddModify

Data Import

CRT-7 test data can currently be imported via a web module linked to the “Test Definition Edit” page. The following must be in place in order for CRT imports to work:

- A separate database must be setup in SQL Server, with the proper tables, to hold the imported CRT test information. This database links back to SIS, but is separate because the CRT data is static and therefore does not need to be backed up regularly. (This CRT data is the same data used to populate the CRT Cognos Cubes.)
- The CRTImport.DLL must be registered on the Web Server
- A line must be added to the Web Application Global.asa file as follows:
 - Application("test_database") = "SISTestdatadb" were SISTestdatadb is the name of the new CRT Cognos SQLServer Database.